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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/936,440	01/25/2002	Uri Mahlab	MAHLAB=2	3860
1444 7590 06/11/2007 BROWDY AND NEIMARK, P.L.L.C. 624 NINTH STREET, NW SUITE 300 WASHINGTON, DC 20001-5303			EXAMINER BELLO, AGUSTIN	
			ART UNIT 2613	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

09/936,440

**Applicant(s)**

MAHLAB, URI

**Examiner**

Agustin Bello

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 April 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 45-64,66-73,76-79,82-84 and 86 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 45-64,66-73,76-79,82-84 and 86 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 4/12/07 has been entered.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 45 is rejected under 35 U.S.C. 102(b) as being anticipated by Barnsley (U.S. Patent No. 5,488,501).

Regarding claim 45, Barnsley teaches in a telecommunication system, a method for routing optical data signals using a first communication path (the optical path between reference numerals 7 and 8 in Figure 1) extending between at least two network elements (reference numerals 7, 8 in Figure 1) of the telecommunication system and comprising at least one optical link (e.g. the optical link between the output of coupler 7 and the input of optical switch 8 in Figure 1) for carrying optical data signals, and a second communication path (e.g. the communication path between the output of coupler 7 and the input of optical switch 8 in Figure 1) extending between at least two network elements of the telecommunication system (reference

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numerals 7, 15 in Figure 1) and comprising one or more optical links (e.g. the optical links between the output of coupler 7 and the input 16 of optical switch 8 in Figure 1) for carrying optical addressing signals, the method comprising the steps of providing a combination of said optical addressing signals to provide addressing information required for establishing an address for routing the optical data signals (column 1 lines 23-31), and providing said second communication path as one or more optical links (e.g. the optical links between the output of coupler 7 and the input 16 of optical switch 8 in Figure 1) which is at least physically different path from any of the optical links comprised in said first communication path.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 46-47, 53, 55-56, 61, 63-64, 66, 72, 76-79, 82-84, and 86 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fatehi (U.S. Patent No. 6,600,583) in view of Barnsley (U.S. Patent No. 5,488,501).

Regarding claim 46, 55, 66, Fatehi teaches in a telecommunication system, a method for routing optical data signals between at least two routers in the system, which method comprises: generating first optical addressing signals by converting signals identifying a destination address into corresponding optical addressing signals (reference letters T in Figure 1); transmitting said optical addressing signals over one or more optical addressing links from one of the at least two routers to another router (reference letter R2 in Figure 1) of the at least two routers; and

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concurrently or subsequently transmitting said optical data signals to said another router via an optical data link (column 4 line 61 – column 5 line 7), said optical data link being extending from said one router (reference letter R1 in Figure 1) to the another router (reference letter R2 in Figure 1), transmitting to said transmission source an indication that said optical data signals can be forwarded towards their destination (e.g. “acknowledgement” throughout Fatehi); receiving said indication at said transmission source; and transmitting said optical data signals towards said destination along said data transmission path (column 4 line 61 – column 5 line 7). Fatehi differs from the claimed invention in that Fatehi fails to specifically teach that said optical data link being extending from said one router to the another router on at least one partially physically different path from said one or more optical addressing links extending from the said one router one of the at least two routers to the another router of the at least two routers. However, as noted in the rejection of claim 45, Barnsley, in the same field of optical communication, teaches a router (reference numeral 1 in Figure 1) that internally includes at least one partially physically different path (i.e. the path from splitter 7 to optical switch 8 in Figure 1) from said one or more optical addressing links (i.e. path 101 in Figure 1 of Fatehi and similarly the addressing path created by elements 2, 7, 15, 14, and 16 in Figure 1 of Barnsley) extending from the said one router one of the at least two routers to the another router of the at least two routers. In other words, Fatehi clearly teaches both a optical data link and an addressing link (reference numeral 101 in Figure 1) extending between two routers, while Barnsley teaches that within the routing node (reference numeral 1 in Figure 1), the addressing link is separated from the data link and extended to the actual routing element where the address signals are used to perform a routing operation. This concept of separation of data and addressing links further appears to be

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suggested by Fatehi's separation of address tags within the router of Figure 4. As such, one skilled in the art would have been motivated to allow the optical data link and the optical addressing link to be on at least partially physically different paths in order to allow the addressing data to be used to route the optical data signals through a switch (abstract of Barnsley). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to allow the optical data link and the optical addressing link to be on at least partially physically different paths.

Regarding claim 47, Fatehi teaches generating new optical addressing signals associated with the next section of a transmission path extending from a current router towards said destination address; transmitting the new optical addressing signals over one or more optical addressing links extending between said current router and a next router; transmitting said optical data signals to said next router via an optical data link extending between said current router and said next router; and wherein said one or more optical addressing links is at least partially different from said optical data link (e.g. the addressing link is established via a subcarrier frequency and is therefore at least partially different from the optical data link), repeating the steps of generating new optical signals, transmitting the new optical addressing signals and transmitting said optical data said next router, until said optical data signals are transmitted to said destination address via subsequent routers located along a transmission path extending towards said destination address (column 4 line 61 – column 5 line 7).

Regarding claim 53, 61 Fatehi teaches that the transmission of at least one of the optical data signals is delayed until the following steps are performed; decoding said optical address signals; deriving addressing information from the decoded optical addressing signals; and if

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required, generating another, or using said, optical routing address for further routing of said optical data signals (column 4 line 61 – column 5 line 7).

Regarding claim 56, Fatehi teaches that indication serves as an acknowledgement in a communication signaling process (e.g. “A” signals in Figure 1).

Regarding claim 63, Fatehi teaches that the indication signal is an optical indication signal (column 4 line 61 – column 5 line 7).

Regarding claim 64 and 79, Fatehi teaches that the indication is an electric indication signal (e.g. once it reaches the other side of the source router R1 in Figure 1).

Regarding claim 72, 76-78, 82-84, 86, Fatehi teaches transmitting optical addressing data to a first network element having routing capabilities (reference numeral R1 in Figure 1); assigning an appropriate optical link (reference numeral 101, 104 in Figure 1) connecting said first network element with a second network element (reference numeral R2, R5 in Figure 1) where the assignment is based on the optical addressing data; and transmitting the optical data via the assigned optical link. Fatehi differs from the claimed invention in that Fatehi fails to specifically teach that the optical data link and the optical addressing link are at least partially physically different paths. However, Barnsley, in the same field of optical communication, teaches that this concept is well known in the art. One skilled in the art would have been motivated to allow the optical data link and the optical addressing link to be on at least partially physically different paths in order to allow the addressing data to be used to route the optical data signals through a switch (abstract of Barnsley). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to allow the optical data link and the optical addressing link to be on at least partially physically different paths.

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6. Claims 48-52, 54, 57-60, 62, 67-71, and 73 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fatehi in view of Barnsley and Nir (U.S. Patent No. 6,160,652).

Regarding claim 48, 67, the combination of Fatehi and Barnsley differs from the claimed invention in that it fails to specifically teach that information extracted from at least one of the optic addressing signals is transmitted at one of two binary illumination states. However, the transmission of binary information is very well known in the art. Furthermore, Nir, in the same field of optical communication, teaches the transmission of optical address signals in different binary illumination states (column 6 lines 23-65). One skilled in the art would have been motivated to employ a binary illumination scheme such as that taught by Nir in order to increase the number of available addresses. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to transmit optical address signals in different binary illumination states.

Regarding claim 49, the combination of Fatehi and Barnsley differs from the claimed invention in that it fails to specifically teach that at least one of the optical addressing signals is transmitted at a certain illumination level whereas at least one other optical addressing signal is presented by absence of illumination. However, as discussed regarding claim 48, Nir teaches the transmission of optical address signals in different binary illumination states and further teaches that the optical addressing signals is transmitted at a certain illumination level (e.g. "1" being high) whereas at least one other optical addressing signal is presented by absence of illumination (e.g. "0" being low) (column 6 lines 23-65). One skilled in the art would have been motivated to employ a binary illumination scheme such as that taught by Nir in order to increase the number



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of available addresses. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to transmit optical address signals in different binary illumination states.

Regarding claims 50-52 and 68-71, the combination of references obviate the ability to transmit the optical addressing signals either on the same wavelength, different wavelength, at the same intensity or different intensities (see addressing tables of Nir indicating different intensities and different wavelengths; e.g. overlap of addressing signals indicated in 302 of Figure 3 of Fatehi). Furthermore, the applicant's claim to a variety of combinations of wavelengths and intensities indicates that this feature is not critical to the invention at hand. Clearly, one skilled in the art would possess the ability to transmit optical signals at different intensities and wavelengths as desired. As such the combination of references obviates the claimed invention.

Regarding claim 54, 73, Fatehi differs from the claimed invention in that Fatehi fails to specifically teach that the transmission of said at least one of the optical data signals is delayed by allowing said at least one of the optical data signals to pass through an optic fiber of a length corresponding to a desired delay in the transmission. However, Nir teaches this limitation (column 2 line 9 –14). One skilled in the art would have been motivated to employ a delay as taught by Nir in order to allow the router to determine the routing action necessary for the data signals while the address signal is processed. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to delay the transmission of a data signal via a delay fiber.

Regarding claim 57-60, Fatehi teaches that different protocol can be employed in the transmission of the optical address signals (column 10 lines 45-55). Furthermore, Nir teaches the

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IP protocol (column 1 lines 28-35). Furthermore, the protocols listed by the applicant are very well known in the art and well within the realm of knowledge of one skilled in the art. As such, one skilled in the art could have selected which protocol or combination of protocols would be most effective in the system of Fatehi. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to employ different protocols as taught by Fatehi and Nir as needed throughout the system of Fatehi.

Regarding claim 62, Fatehi teaches that the indication is transmitted along a path different path than the data transmission path (e.g. reverse path as seen in Figure 1).

#### ***Response to Arguments***

7. Applicant's arguments filed 4/12/07 have been fully considered but they are not persuasive.

As noted in the office action, Barnsley continues to read of the limitations of claim 45 since elements 7 and 8 can be considered both network elements and routing elements when given the broadest reasonable interpretation while remaining consistent with the applicant's specification. For example, element 7 switches the destination of the addressing signal from the path 2 and forwards that addressing signal to the input to amplifier 15. Likewise, element 8 switches and forwards the data signal to either a drop port (11b) or through port (11a).

Regarding applicant's argument against the combination of Fatehi and Barnsley, the examiner is not seeking to modify how the addressing signal is formed. The examiner simply relies on Barnsley for further evidence that the concept of separate data and address paths are well known in the art, a concept already suggested by Fatehi (Figure 4) in seeking to separate

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address information from data information via an alternate path that is physically different from the data path.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Agustin Bello whose telephone number is (571) 272-3026. The examiner can normally be reached on M-F 8:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571)272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink that reads "A. Bello". The signature is stylized with a large, looped "A" and a cursive "Bello".

Agustin Bello  
Primary Examiner  
Art Unit 2613

AB